Five-Year Review Report

Fourth Five-Year Review Report for Yellow Water Road FLD980844179

Baldwin Duval County, Florida

September 2015

United States Environmental Protection Agency Region 4 Atlanta, Georgia

Approved by:

Franklin E. Hill

Director, Superfund Division

Date:

Fourth Five-Year Review Report

for

Yellow Water Road 1170, 1184 and 1190 Yellow Water Road Baldwin

Duval County, Florida

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List of Acronyms

AEC American Electric Corporation

AEEC American Environmental Energy Corporation
AEPC American Environmental Protection Corporation

AOC Administrative Order on Consent

ARAR Applicable or Relevant and Appropriate Requirement

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CFR Code of Federal Regulations

CIC Community Involvement Coordinator

COC Contaminant of Concern

CRA Conestoga-Rovers & Associates

EPA United States Environmental Protection Agency

ESD Explanation of Significant Differences

FDEP Florida Department of Environmental Protection

FYR Five-Year Review IC Institutional Controls

MCL Maximum Contaminant Level
μg/kg Microgram per Kilogram
μg/L Microgram per Liter
mg/kg Milligram per Kilogram
NCP National Contingency Plan
NPL National Priorities List
O&M Operation and Maintenance

OU Operable Unit

PCB Polychlorinated Biphenyls
PRP Potentially Responsible Party
RAO Remedial Action Objective

RI/FS Remedial Investigation/Feasibility Study

ROD Record of Decision

RPM Remedial Project Manager RSL Regional Screening Level

TBC To Be Considered

TCLP Toxicity Characteristic Leaching Procedure

Executive Summary

The Yellow Water Road Superfund site (the Site) is located about one mile south of the Town of Baldwin in Duval County, Florida. In the early 1980s, the site owner collected and stored electrical transformers and other polychlorinated biphenyl (PCB)-contaminated materials at the Site, with the intention of removing PCB-contaminated fluids and salvaging the transformers. Salvage activities spilled PCB-contaminated liquids, contaminating soil and shallow groundwater with PCBs.

A removal action in the mid-1980s addressed immediate threats to human health and the environment. The United States Environmental Protection Agency divided the Site into two operable units (OUs). Cleanup of OU1 addressed contaminated soil and included excavation and stabilization/solidification of contaminated soil, placement of the treated soil back into the excavation area, capping of the area (known as the monolith) with one foot of clean soil and vegetation, monitoring and institutional controls. Cleanup of OU2 addressed contaminated groundwater and included long-term groundwater monitoring, institutional controls and contingent remedial treatment options should elevated site-related contamination be detected in groundwater sampling. The Site's potentially responsible parties (PRPs) led site cleanup activities and completed remedial actions at both OUs in 1996. Long-term maintenance and monitoring activities are ongoing.

The EPA listed the Site on the Superfund program's National Priorities List (NPL) in 1986. Following cleanup, the EPA deleted the Site from the NPL in May 1999. The triggering action for this Five-Year Review (FYR) was the signing of the previous FYR on September 21, 2010.

The remedy is protective of human health and the environment. Excavation, stabilization/solidification and capping of PCB-contaminated soil eliminated the potential for exposure to the contaminated media and eliminated the source material that might have contributed to groundwater contamination. Appropriate institutional controls are in place to restrict groundwater use, prohibit the installation of groundwater wells at the Site and ensure future land uses do not compromise the integrity of the remedy.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site Name: Yellow Water Road

EPA ID: FLD980844179

Region: 4 State: FL City/County: Baldwin/Duval County

SITE STATUS

NPL Status: Deleted

Multiple OUs? Has the site achieved construction completion?

Yes Yes

REVIEW STATUS

Lead agency: EPA

Author name: Melissa Oakley (Reviewed by EPA)

Author affiliation: Skeo Solutions

Review period: 08/22/2014 – 09/21/2015

Date of site inspection: 01/06/2015

Type of review: Statutory

Review number: 4

Triggering action date: 09/21/2010

Due date (five years after triggering action date): 09/21/2015

Issues/Recommendations

No issues were identified during this Five-Year Review.						
Sitewide Protectiveness Statement						
Protectiveness Determination: Protective	Addendum Due Date (if applicable):					
Protectiveness Statement: The remedy is protective of human health and the environment. Excavation, stabilization/solidification and capping of PCB-contaminated soil eliminated the potential for exposure to the contaminated media and eliminated the source material that might have contributed to groundwater contamination. Appropriate institutional controls are in place to restrict groundwater use, prohibit the installation of groundwater wells at the Site and ensure future land uses do not compromise the integrity of the remedy.						
Environmenta	al Indicators					
 Current human exposures at the Site are under Contaminated groundwater migration is under 						
Are Necessary Institutio	nal Controls in Place?					
Has EPA Designated the Site as Sitewide Ready for Anticipated Use?						
⊠ Yes □ No						
Has the Site Been Put into Reuse?						

OU(s) without Issues/Recommendations Identified in the Five-Year Review:

Fourth Five-Year Review Report for Yellow Water Road Superfund Site

1.0 Introduction

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. FYR reports document FYR methods, findings and conclusions. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The EPA prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA Section 121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The EPA interpreted this requirement further in the NCP, 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

Skeo Solutions, an EPA Region 4 contractor, conducted the FYR and prepared this report regarding the remedy implemented at the Yellow Water Road Superfund site (the Site) in Baldwin, Duval County, Florida. The EPA's contractor conducted this FYR from August 2014 to September 2015. The EPA is the lead agency for developing and implementing the remedy for the potentially responsible party (PRP)-financed cleanup at the Site. The Florida Department of Environmental Protection (FDEP), as the support agency representing the State of Florida, has reviewed all supporting documentation and provided input to the EPA during the FYR process.

This is the fourth FYR for the Site. The triggering action for this statutory review is the previous FYR. The FYR is required due to the fact that hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure. The Site consists of two operable units (OUs). This FYR report addresses both site OUs.

2.0 Site Chronology

Table 1 lists the dates of important events for the Site.

Table 1: Chronology of Site Events

Event	Date
The EPA discovered contamination at the Site and initiated a removal	
action to address electrical transformers, wastes and contaminated soil	November 1984
left on site	
The EPA completed initial removal action	March 1985
The EPA listed the Site on the National Priorities List (NPL)	June 10, 1986
The EPA entered an Administrative Order on Consent (AOC) with 53	September 24, 1987
PRPs to conduct a remedial investigation and feasibility study (RI/FS)	5eptember 24, 1967
The EPA entered into a second AOC with PRPs to conduct an interim	May 9, 1988
surface removal action; PRPs initiated the removal action	
PRPs completed interim surface removal activities	July, 29 1988
PRPs initiated site-wide RI/FS	November 1988
PRPs completed site-wide RI/FS	August 1990
EPA signed Record of Decision (ROD) for OU1	September 28, 1990
PRPs initiated OU2 RI/FS	January 28, 1991
PRPs began remedial design for OU1	March 22, 1991
PRPs completed OU2 RI/FS	April 1992
The EPA signed ROD for OU2	June 30, 1992
PRPs completed OU1 remedial design	November 23, 1992
The EPA and PRPs entered into a consent decree	October 11, 1995
PRPs began OU1 and OU2 remedial actions	May 9,1996
PRPs completed remedial actions at OU1 and OU2	September 17, 1996
The EPA issued the Site's Preliminary Close-Out Report	October 2, 1996
The EPA approved Operations and Maintenance (O&M) Plan	October 1996
The EPA approved O&M plan addendum	April 29, 1997
The EPA issued an Explanation of Significant Differences (ESD) for OU2	April 6, 1998
The EPA issued the Site's Final Close-Out Report	May 20, 1998
The EPA deleted the Site from the NPL	May 18, 1999
The EPA issued the Site's first FYR	September 18, 2000
The EPA issued the Site's second FYR	September 21, 2005
NHG Holdings, LLC acquired site property parcel 000968-0200	February 23, 2007
NHG Holdings, LLC acquired site property parcel 000968-0600	September 26, 2007
The EPA issued ESD for OU1	July 21, 2010
The EPA issued the Site's third FYR.	September 21, 2010
PRPs filed a Declaration of Restrictive and Affirmative Covenants to	September 26, 2013
enforce site institutional controls	

3.0 Background

3.1 Physical Characteristics

The Site is located at 1170, 1184 and 1190 Yellow Water Road, about one mile south of the Town of Baldwin in Duval County, Florida (Figure 1). The Site was previously used for the disposal and storage of transformers containing polychlorinated biphenyl (PCB)-contaminated

fluids. An on-site monolith, which contains stabilized and solidified contaminated soil, is located on the western end of the Site and is surrounded by a secured perimeter fence. The monolith is set back several hundred feet from Yellow Water Road and cannot be seen from the roadway (Figure 2). The Site is located in a rural residential area. An occupied single-family home is located immediately adjacent to the eastern fence line of the monolith.

The Site is underlain by two major aquifer systems: the shallow aquifer and the Floridan aquifer. Groundwater flows from east to west beneath the Site. With the exception of the monolith, Site topography is flat, with surface elevations varying only 1 to 2 feet.

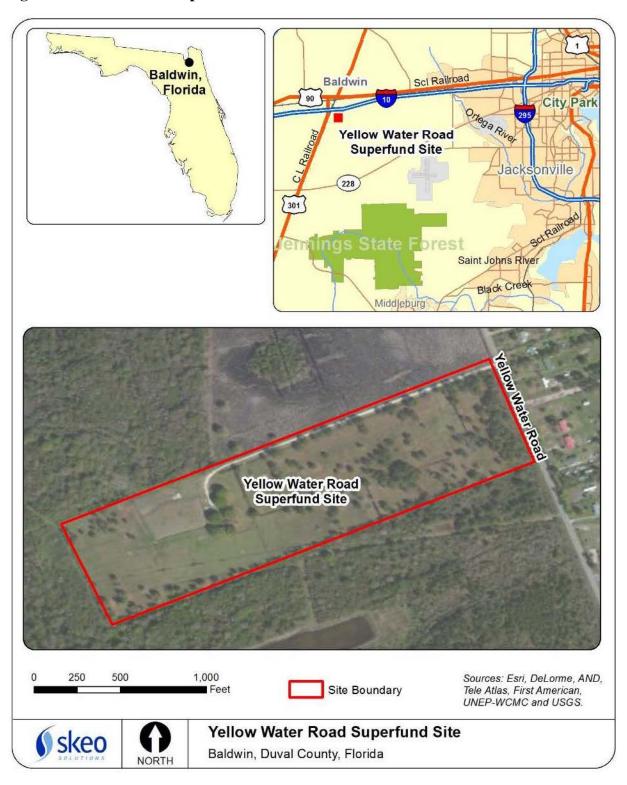
3.2 Land and Resource Use

From 1981 until 1983, the Site was used to store electrical transformers and PCB-contaminated soil, equipment and liquids. The site owner and current on-site tenants use the eastern part of the Site for cattle and horse grazing. Land use in the area surrounding the Site is primarily rural residential.

Water from the shallow aquifer is accessed near the Site for domestic use. The on-site residence uses well water from the shallow aquifer, but the well is located upgradient of groundwater flow through the Site. Sampling of the residential well has verified that the water is not impacted by site-related contamination. The Floridan aquifer is the major source of drinking water for northeastern Florida. Private wells in the area access the Floridan aquifer for stock, domestic and irrigation purposes.

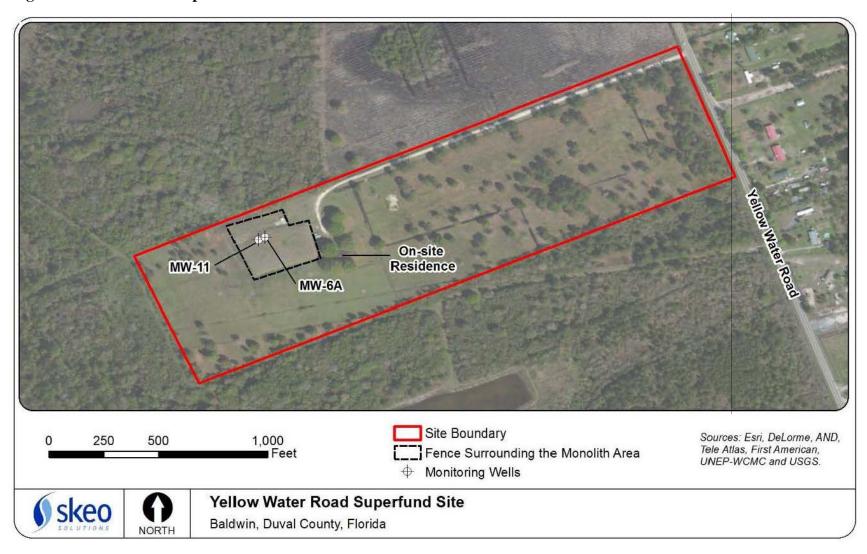
In 2007, the City of Jacksonville, based on a request from the site owner, NHG Holdings, LLC, rezoned 21 acres of the eastern part of the Site (now referred to as parcel B-1) from heavy industrial to a Planned Unit Development for commercial and industrial land uses (Figure 3). NHG Holdings, LLC has not finalized its redevelopment plans for the Site and is still considering several industrial use options, including a warehousing facility and industrial shops. Although site zoning changed in 2007, residential and agricultural site uses that existed prior to these changes have continued.

Figure 1: Site Location Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

Figure 2: Detailed Site Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site

3.3 History of Contamination

The American Environmental Energy Corporation (AEEC), in a joint venture with the American Electric Corporation (AEC) and the American Environmental Protection Corporation (AEPC), planned to incinerate PCB-contaminated fluids on site. From 1981 until 1983, AEEC collected a variety of transformers, capacitors, drums and other PCB-contaminated materials at the Site. During this time, AEC also transferred PCB-contaminated oil to the Site for later incineration. An on-site incinerator permit was never issued and no incineration of PCBs ever took place at the Site.

The joint venture between AEEC, AEC and AEPC dissolved by October 1982 and AEEC began to salvage valuable metals, such as copper, from the transformers that were stored on site. Salvaging activities released PCB-contaminated liquids to the environment, resulting in soil and shallow groundwater contamination.

3.4 Initial Response

In fall 1984, Duval County cited AEEC for violations of local PCB-storage ordinances. The County ordered AEEC to remove all PCBs and PCB-contaminated items and to investigate the Site to determine the extent of contamination and necessary cleanup and monitoring activities. In November 1984, the EPA intervened when AEEC had insufficient funds to accomplish the tasks.

In November 1984, the EPA initiated a removal action to address immediate threats to human health and the environment. Cleanup actions included draining, steam cleaning and on-site storage of the electrical transformers and excavation and stockpiling of PCB-contaminated soil. The EPA secured the Site by covering the stockpiled soil with a synthetic protective covering and installing a fence with a locking gate around the capped area. Salvaging activities on site ceased in June 1985 following an EPA order restricting the removal or salvaging of transformers at the Site without proper EPA notification. The EPA completed the initial removal action in December 1985.

The EPA proposed the Site for listing on the Superfund program's National Priorities List (NPL) in September 1985 and finalized the Site on the NPL in June 1986. In 1987, the EPA entered into an Administrative Order on Consent (AOC) with the 53 PRPs who constitute the Yellow Water Road Steering Committee. The AOC required the PRPs to perform a remedial investigation and feasibility study (RI/FS).

In May 1988, EPA entered into an AOC with the Yellow Water Road Steering Committee to perform a second removal action. Removal activities, completed in July 1988, included the demolition of an on-site warehouse, disposal of the previously stockpiled contaminated soil, off-site incineration of PCB-containing liquids, and off-site disposal of transformers and PCB capacitors.

Conestoga-Rovers & Associates (CRA), the PRP's contractor, performed the RI/FS investigations. Based on investigation findings, the EPA separated the cleanup into two OUs: OU1 addressed soil contamination and OU2 addressed groundwater contamination.

3.5 Basis for Taking Action

OU1

The Site's OU1 RI Report identified PCB compounds as the contaminants of concern (COCs) for on-site soils. The Site's risk assessment, performed as part of the RI, determined that the primary threats that the Site posed to human health were through direct contact with contaminated soil and inhalation of airborne soil particulates. The ecological risk assessment concluded that site-related contamination in soils posed a small overall threat to terrestrial biological communities.

OU2

The Site's OU2 RI Report identified PCBs as the COC for groundwater at the Site. Groundwater investigations performed to define the extent of the PCB plume found that PCB contamination in groundwater was confined to a small source area (located in the shallow aquifer under what is now the monolith area). Further evaluation determined that the most likely source for groundwater contamination at the Site was cross-contamination from drilling during monitoring well installation.

The OU2 risk assessment identified an unacceptable risk associated with the ingestion of groundwater from the Site. The risk assessment attributed the potential risk to the presence of PCBs at concentrations that exceeded state and federal maximum contaminant levels (MCLs). The ecological risk assessment concluded that PCB-contaminated groundwater did not present a significant risk to birds or mammals at the Site.

4.0 Remedial Actions

In accordance with CERCLA and the NCP, the overriding goals for any remedial actions are protection of human health and the environment and compliance with applicable or relevant and appropriate requirements (ARARs). A number of remedial alternatives were considered for the Site, and final selection was made based on an evaluation of each alternative against nine evaluation criteria that are specified in Section 300.430(e)(9)(iii) of the NCP. The nine criteria are:

- 1. Overall Protection of Human Health and the Environment
- 2. Compliance with ARARs
- 3. Long-Term Effectiveness and Permanence
- 4. Reduction of Toxicity, Mobility or Volume through Treatment
- 5. Short-Term Effectiveness
- 6. Implementability
- 7. Cost
- 8. State Acceptance
- 9. Community Acceptance

4.1 Remedy Selection

The EPA selected a remedy to address OU1 soil contamination in the Site's September 1990 Record of Decision (ROD). The OU1 ROD listed the following remedial action objectives (RAOs):

- Prevent near-term and future exposure of human receptors to contaminated soils on site
- Control contaminant migration due to surface drainage so contaminant releases from the Site do not exceed levels of concern to human health and the environment.
- Monitor PCB concentrations in the soils to verify the effectiveness of the remedial measures.

The remedy selected in the OU1 ROD consisted of the following remedial components:

- Implementation of a treatability study to verify the effectiveness of the technology in solidifying/stabilizing PCBs contained in site soils.
- Excavation of soils exceeding PCB concentrations of 10 milligrams per kilogram (mg/kg), with subsequent treatment in a batch mixer.
- Performance of a pre-leaching analysis using the Toxicity Characteristic Leaching Procedure (TCLP).
- Treatment consisting of batch mixing contaminated soils with water and site-specific designed and tested admixtures to form a homogeneous matrix.
- Placement and curing of treated soils back within the operational area.
- Backfilling of excavated areas with clean soils (containing less than 1 mg/kg PCB concentration).
- Placement of a vegetated one-foot-thick soil cover over the treated soil mass (monolith) and restricting access to the monolith with a security fence.
- Vegetative cover over the remainder of the Site.
- Long-term management controls, including operation and maintenance of the monolith, vegetative cover and fence.

In July 2010, the EPA modified the OU1 ROD with an Explanation of Significant Differences (ESD) to include institutional controls in the form of a restrictive covenant to ensure the long-term protectiveness of the remedy.

The EPA selected a remedy to address groundwater contamination in the Site's June 1992 OU2 ROD. The OU2 ROD listed the following RAOs:

- Prevent near-term and future exposure of human receptors to contaminated groundwater both on and off site.
- Monitor groundwater in a manner that will verify the effectiveness of the selected remedy.

The remedy selected in the OU2 ROD consisted of the following remedial components:

- Implementation of institutional controls, which would include deed restrictions, zoning controls and water supply well permitting prohibitions.
- Construction of four additional groundwater monitoring wells downgradient of the former operational area.
- Installation of a security fence around all source area wells.
- Implementation of a long-term groundwater monitoring program to verify the effectiveness of the remedy.
- Preparation of a groundwater pump-and-treat remedy to be implemented contingent upon exceedances of the MCL for PCB concentrations.

The 1998, the EPA modified the OU2 ROD with an ESD. The ESD indicated that groundwater monitoring could be terminated once the performance standards set forth in the ROD were achieved. As the MCL had already been achieved at the time the ESD was written, no further groundwater monitoring was required for OU2. The ESD further clarified that monitoring wells MW-6A and MW-11A (Figure 2) would be retained to evaluate the future effectiveness of the OU1 soil remedy in accordance with the Site's 1996 Operation, Maintenance and Monitoring Plan

Table 2 presents cleanup goals and COCs for soil and groundwater.

Table 2: Soil and Groundwater COC Cleanup Goals

COC	Cleanup Goal				
Soil ^a					
PCBs	10 mg/kg ^c				
Groundwater ^b					
PCBs	0.5 μg/L ^d				
Notes: a. Soil cleanup goal as defined in the 1990 OU1 ROD. b. Groundwater cleanup goal as defined in the 1992 OU2 ROD. c. The OU1 ROD derived soil cleanup goals from the human health risk assessment. d. The OU2 ROD based groundwater cleanup goals on federal MCLs.					

4.2 Remedy Implementation

μg/L – Micrograms per liter

OU1

The Site's PRPs performed remedial design for OU1 between 1990 and 1992. Remedy construction began in May 1996 and was completed in September 1996. PRP contractors excavated an estimated 4,472 cubic yards of soils containing PCB concentrations above the cleanup goal of 10 mg/kg. Contaminated soil was excavated from the areas now known as the monolith area and areas north and west of the monolith area. Following excavation, contractors stabilized and solidified the contaminated soil using Portland cement. The Site's treated soil mass, known as the monolith, was placed back into the former operational area and covered with a minimum of twelve inches of clean topsoil. The topsoil was covered with sod to help prevent erosion. Clean soils (verified as containing less than 1 mg/kg total PCBs) were used to backfill the excavated areas. Analysis results verified that all treated soil samples contained less than the 60 µg/L PCB leaching standard established in the OU1 remedial action work plan. Following

completion of the monolith construction activities, contractors isolated and secured the area with a security fence.

The OU1 ROD required long-term performance verification of the monolith through continued groundwater sampling. CRA routinely samples monitoring wells RMW-6A and MW-11A every five years for total PCBs. In 2013, the site owner filed a restrictive covenant for the Site, which restricts land and groundwater use. See section 6.3 for detailed information regarding institutional control implementation.

OU2

The OU2 ROD's selected remedy anticipated that after completion of OU1 source remediation, any PCB contamination in groundwater would decline over time and no migration would occur. Groundwater sampling determined that it was not necessary to implement the OU2 ROD contingency plan for groundwater recovery and treatment.

In 1996, PRPs properly abandoned 15 existing groundwater monitoring wells and established a long-term groundwater monitoring plan. The PRPs conducted quarterly groundwater monitoring from August 1996 through November 1997, per the OU2 ROD. Following publication of the OU2 ESD in 1998, groundwater monitoring activities ceased, as the cleanup goal for PCBs in groundwater had been achieved. The 2013 restrictive covenant restricts access to site groundwater. See section 6.3 for detailed information regarding institutional control implementation.

Sitewide

The EPA documented the completion of remedy construction in the Site's May1998 Final Close-Out Report and deleted the Site from the NPL in May 1999.

4.3 Operation and Maintenance (O&M)

The Site's 1996 Operations, Maintenance and Monitoring Plan is designed to ensure the integrity of the vegetative soil cover, underlying monolith structure, groundwater monitoring wells and other structures, such as the on-site equipment shed. O&M activities, performed by PRP contractors during semi-annual inspections, include long-term monolith performance verification and inspection and maintenance of the monolith's vegetative cover, fencing, gates and signs.

Based on a review of O&M reports from 2010 to 2014, no major site maintenance activities were required during that time period. Based on the recommendation of the 2005 FYR, groundwater is now monitored once every five years to assess monolith performance. The most recent groundwater monitoring event occurred in May 2013.

The OU1 ROD estimated an average annual O&M cost over 30 years of between \$37,000 and \$48,000 per year. Between 2010 and 2014, the actual annual O&M costs associated with the OU1 remedy have been in line with the originally estimated annual costs, with the exception of 2011 (Table 3). CRA explained that the increase in O&M costs in 2011 can be attributed to legal and land survey fees associated with the finalization of the Site's restrictive covenant. The OU2 ROD estimated an average annual O&M cost over a period of 30 years of roughly \$11,529 per year. O&M activities associated with the OU2 remedy are no longer needed.

Table 3: Annual O&M Costs

Year	Total Cost
2010	\$40,000
2011	\$120,000
2012	\$45,000
2013	\$50,000
2014	\$40,000

5.0 Progress Since the Last Five-Year Review

The protectiveness statements from the 2010 FYR for the Site stated the following:

OU1

The remedy at OU1 currently protects human health and the environment because it is functioning as intended by the decision documents for the Site. Contaminated soil was excavated, stabilized/solidified, and capped on site to eliminate the soil exposure pathway and reduce contaminant leachability to groundwater above MCLs. Sampling data show that soil PCB contamination has not been detected in groundwater above MCLs since the inception of the monolith performance verification monitoring program in 1999. In order for OU1 to be protective in the long term, the following recommendations need to be addressed:

- Formalize an access agreement between the current site owner and the PRP.
- Implement land use controls to ensure the long-term integrity of the Site's remedy.

OU2

The remedy at OU2 is protective of human health and the environment because the remedy is functioning as intended by the decision documents for the Site. As OU1 soil remediation activities were expected to control the source material potentially entering groundwater, a long-term groundwater monitoring program was implemented to detect whether the expected decline of PCB concentrations occurred. Quarterly sampling results confirmed that PCB concentrations had declined below groundwater MCLs and, per the 1998 ESD, the monitoring program was terminated, with no further groundwater monitoring action required. The zoning and water supply well permitting prohibition ICs required by the OU2 ROD have been implemented.

Sitewide Protectiveness Statement

The remedial actions at OU1 and OU2 are currently protective. Because the remedial actions at all OUs are protective, the Site's remedy is protective of human health and the environment. However, in order for the Site's remedy to remain protective in the long term, the land use control and access agreement follow-up actions below need to be addressed.

The 2010 FYR included two issues and recommendations. This report summarizes each recommendation and its current status below (Table 4).

Table 4: Progress on Recommendations from the 2010 FYR

Recommendations	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
Formalize access agreement between the PRP group and the current site owners.	PRPs	8/1/2011	Complete. NHG Holdings, LLC signed a Declaration of Restrictive and Affirmative Covenants granting site access to FDEP, PRPs and PRP contractors.	9/26/2013
Implement land use controls to ensure the long-term integrity of the Site's remedy.	PRPs	8/1/2011	Complete. NHG Holdings, LLC signed a Declaration of Restrictive and Affirmative Covenants to establish and enforce land use and groundwater use restrictions at the Site.	9/26/2013

6.0 Five-Year Review Process

6.1 Administrative Components

EPA Region 4 initiated the FYR in August 2014 and scheduled its completion for September 2015. The EPA remedial project manager (RPM) Peter Thorpe led the EPA site review team, which also included the EPA community involvement coordinator (CIC) L'Tonya Spencer and contractor support provided to the EPA by Skeo Solutions. In December 2014, the EPA held a scoping call with the review team to discuss the Site and items of interest as they related to the protectiveness of the remedy currently in place. The review schedule established consisted of the following activities:

- Community notification.
- Document review.
- Data collection and review.
- Site inspection.
- Local interviews.
- FYR Report development and review.

6.2 Community Involvement

In February 2015, the EPA published a public notice in the *Florida Times-Union* newspaper announcing the commencement of the FYR process for the Site, providing contact information for Peter Thorpe and L'Tonya Spencer and inviting community participation. The press notice is available in Appendix B. No one contacted the EPA as a result of the advertisement.

The EPA will make the final FYR Report available to the public. Upon completion of the FYR, the EPA will place copies of the document in the designated site repository: Baldwin City Hall, 10 U.S. Highway 90 West, Baldwin, Florida 32234.

6.3 Document Review

This FYR included a review of relevant, site-related documents including the RODs, remedial action reports and recent monitoring data. A complete list of the documents reviewed can be found in Appendix A.

ARARs Review

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain "a degree of cleanup of hazardous substance, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment." The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate.

- Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, remedial action, location or other circumstance found at a CERCLA site.
- Relevant and appropriate requirements are those standards that, while not "applicable," address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are more stringent than federal requirements may be applicable or relevant and appropriate.
- To-Be-Considered (TBC) criteria are non-promulgated advisories and guidance that are not legally binding, but should be considered in determining the necessary remedial action. For example, TBCs may be particularly useful in determining health-based levels where no ARARs exist or in developing the appropriate method for conducting a remedial action.

Chemical-specific ARARs are health- or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values establish an acceptable amount or concentration of a chemical that may remain in, or be discharged to, the ambient environment. Examples of chemical-specific ARARs include MCLs under the federal Safe Drinking Water Act and ambient water quality criteria enumerated under the federal Clean Water Act.

Action-specific ARARs are technology- or activity-based requirements or limits on actions taken with respect to a particular hazardous substance. These requirements are triggered by a particular remedial activity, such as discharge of contaminated groundwater or in-situ remediation.

Location-specific ARARs are restrictions on hazardous substances or the conduct of the response activities solely based on their location in a special geographic area. Examples include restrictions on activities in wetlands, sensitive habitats and historic places.

Remedial actions are required to comply with the chemical-specific ARARs identified in the ROD. In performing the FYR for compliance with ARARs, only those ARARs that address the protectiveness of the remedy are reviewed.

Groundwater ARARs

According to the 1992 OU2 ROD, the groundwater ARARs for PCBs, the Site's only groundwater COC, are the National Primary Drinking Water Standards (40 CFR 141-143) and Florida Drinking Water Standards (Florida Administrative Code 62-550). This FYR compared current federal and Florida MCLs to the 1992 ARARs for PCBs. The state and federal MCL for PCBs remains $0.5~\mu g/L$. The ARARs associated with the Site's groundwater have not changed since 1992.

Soil ARARS

The OU1 ROD did not establish chemical-specific ARARs for the soil COCs. Action-specific soil ARARs specified in the 1990 ROD were relevant during the remedy's construction, but are not relevant to the remedy's continued protectiveness. See Section 7.2 for a discussion of soil cleanup goals and any changes in toxicity levels for COCs.

<u>Institutional Control Review</u>

The Site is made up of three parcels of land. Parcel #000968-0275 (also referred to as Parcel B-2) is located at 1170 Yellow Water Road and consists of 2.04 acres. Parcel #000968-0250 (B-3) is located at 1184 Yellow Water Road and consists of 1.71 acres. Parcel #000968-0205 (B-1) is located at 1190 Yellow Water Road and consists of 30.36 acres.

On September 26, 2013, NHG Holdings, LLC entered into a Declaration of Restrictive and Affirmative Covenants with FDEP to establish and implement the required land use and groundwater use restrictions. For the monolith area, designated as Parcel B-3, the covenant restricts any land uses that could potentially disturb the monolith and also restricts the drilling of water wells without prior written approval of the intended use provided by the EPA and FDEP (Figure 3). For Parcel B-2, the covenant restricts land use to commercial and industrial purposes, prohibits disturbance of the top ten inches of surface soil and restricts the drilling of water wells without prior written approval of the intended use provided by the EPA and FDEP. Parcel B-1 is not currently subject to the land and groundwater use restrictions. The covenant also grants irrevocable, permanent and continuing right of site access to FDEP, site PRPs and PRP contractors. The EPA and FDEP communicate regularly with the site owner and tenants to ensure compliance with the restrictive covenant. Stakeholder communication also helps promote an understanding of tenant and site owner responsibility at the CERCLA site. The EPA has provided the site tenant with a copy of the 2013 Declaration of Restrictive and Affirmative Covenants.

Duval County zoning ordinances restrict residential access to groundwater and groundwater withdrawals by potential groundwater users in the area. The Site lies within a Florida Groundwater Delineated Area, which restricts placement of new wells on the property. The Site also lies within the jurisdiction of the St. Johns Water Management District, which implements water supply well permitting controls and restricts groundwater withdrawals.

In September 2014, Skeo Solutions staff conducted research on the Duval County Public Record's Office website and found deed and restrictive covenant information pertaining to the Site listed in Table 5. Appendix F includes additional detailed institutional control and property record information.

Table 5: Deed Documents from Duval County Public Record's Office

Date	Type of Document	Affected Parcel(s) ^a	Description	Book #	Page #
11/30/2011	Warranty Deed	000968-0275	Designation and transfer of "Parcel B-2" from NHG Holdings, LLC to NHG Holdings, LLC ^a	15797	1858
11/30/2011	Warranty Deed	000968-0250	Designation and transfer of "Parcel B-3" from NHG Holdings, LLC to NHG Holdings, LLC ^a	15782	144
12/15/2011	Warranty Deed	000968-0205	Designation and transfer of "Parcel B-1" from NHG Holdings, LLC to NHG Holdings, LLC ^a	15797	1862
09/26/2013	Declaration of Restrictive Covenants	000968-0250 and 000968-0275	Restrictive covenant to establish land and groundwater use restrictions on Parcels B-2 and B-3	16583	1139
Notes:					

a. The purpose of these deeds was to officially change the parcel designations to "B-1," "B-2" and "B-3".

Table 6 lists the institutional controls associated with areas of interest at the Site.

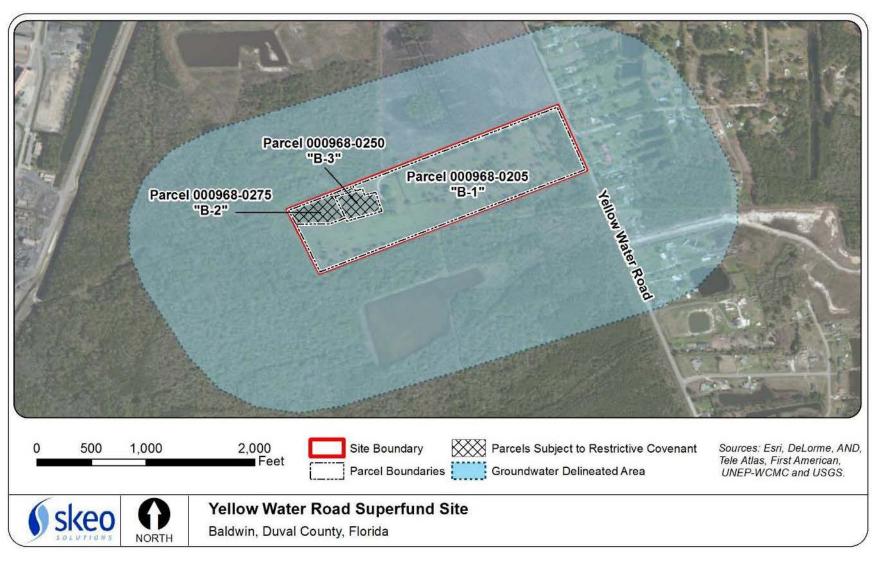
Table 6: Institutional Control (IC) Summary Table

Media	Impacted Parcel(s)	ICs Needed	ICs Called for in the Decision Documents	IC Objective	Instrument in Place
Groundwater	000968-0205 (B-1)	Yes	Yes	Prevent installation of potable water wells and prohibit the use of groundwater beneath the Site.	The Site lies within a Florida Groundwater Delineated Area, which restricts new well placement, and within the jurisdiction of the St. Johns Water Management District, which implements water supply well permitting controls.
Groundwater	000968-0275 (B-2) and 000968-0250 (B-3)	Yes	Yes	Prevent installation of potable water wells and prohibit the use of groundwater beneath the Site.	2013 Restrictive Covenant and the Site's location within a Florida Groundwater Delineated Area and St. Johns Water Management District.
	000968-0205 (B-1)	No	No	NA	NA
Soil	000968-0275 (B-2) and 000968-0250 (B-3)	Yes	Yes	Prevent exposure to contaminated soils that remain on site.	2013 Restrictive Covenant.

a. Florida Groundwater Delineated Area information is available at: http://www.dep.state.fl.us/water/groundwater/delineate.htm. Site accessed 9/3/2014.
 b. St. Johns Water Management District information is available at: http://sjr.state.fl.us/index.html. Site accessed 9/3/2014.

NA – Not applicable

Figure 3: Florida Groundwater Delineated Area Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

6.4 Data Review

OU1

CRA performs groundwater monitoring once every five years to ensure the continued integrity of the monolith over time. Groundwater samples were collected in May 2013 from monitoring wells RMA-6A and MW-11 and analyzed for PCBs (Figure 2). In this data review, groundwater results were compared to the PCB cleanup goal of 0.5 μ g/L, as established in the OU2 ROD. None of the samples contained detectable concentrations of PCBs.

OU₂

The 1998 ESD clarified that the groundwater PCB cleanup goal of $0.5 \mu g/L$ was achieved and indicated that no further groundwater monitoring was required for OU2.

6.5 Site Inspection

A site inspection was conducted on January 6, 2015. Site inspection participants included: Peter Thorpe (EPA RPM), L'Tonya Spencer (EPA CIC), Kelsey Helton (FDEP), Walter Pochron (CRA), and Melissa Oakley and Treat Suomi (Skeo Solutions).

Following a brief safety meeting, site inspection participants toured the capped monolith area. The capped area is secured within a fence with a locking gate. Landfill cap vegetation appeared well-maintained and healthy, and no evidence of erosion or burrowing was observed. No wet areas or standing water were observed on top of the monolith. The two groundwater monitoring wells located on top of the landfill cap were clearly labeled, secured with locks and appeared to be in good condition. Signage is clearly displayed on the monolith fence warning people to not enter and asking people to contact the EPA for additional information.

Site inspection participants also toured the northwestern corner of the Site, located outside the monolith fence (Parcel B-2). The vegetation in the area appeared well-established and healthy. At the time of the site inspection, the current site tenants allowed their two horses to graze in the area. As of March 5, 2015, the horses had been moved from their former grazing area (Parcel B-2) to the eastern part of the Site (Parcel B-1). All grazing activities are now restricted to Parcel B-1 only. Grazing will no longer take place on parcel B-2. What appeared to be an old abandoned monitoring well and cracked concrete pad were observed west of the monolith fence, in the area previously used for grazing. CRA stated that they will retain a drilling contractor to remove the remnants of the suspect well in accordance with state and local requirements. The work will be scheduled to coincide with the next semi-annual inspection. CRA will provide the EPA with the finalized work schedule prior to starting any work.

On January 5, 2015, Skeo Solutions staff visited the local information repository for the Site, located at Baldwin City Hall, at 10 U.S. Highway 90 West in Baldwin, Florida. A records review verified that a large collection of site-related documents is available for public viewing at the information repository, including documents up through the 2010 FYR.

Appendix D includes a completed Site Inspection Checklist. Appendix E includes photographs taken during the site inspection.

6.6 Interviews

The FYR process included interviews with parties affected by the Site, including regulatory agencies involved in site activities or aware of the Site. The purpose was to document the perceived status of the Site and any perceived problems or successes with the phases of the remedy implemented to date. The interviews are summarized below. Appendix C provides the complete interviews.

EPA RPM Peter Thorpe stated that the project is progressing well and that the PRP's contractor does a good job of maintaining and inspecting the Site on a regular basis. Mr. Thorpe suggested that the PRP's contractor begin inspecting Parcel B-2 during semi-annual site visits.

CRA Project Manager Walt Pochron has a positive impression of the Site and indicated that the current performance of the implemented remedy is excellent. CRA believes that the remedy continues to be protective as designed and as evidenced by 20 years of groundwater data consistently yielding non-detectable PCB concentrations. Mr. Pochron indicated that project cleanup and maintenance has moved along smoothly and there have not been any significant maintenance issues or changes during the last five years. Based on the last 20 years of groundwater monitoring data, CRA suggests that further groundwater monitoring at the Site be discontinued.

The on-site resident is aware of the Site's history and has an overall positive impression of the cleanup. The resident is interested in purchasing the western part of the Site. He indicated that if he purchases the property he would want to build a fence with a locking gate to restrict public access to the property. The resident indicated he would like to continue to work with the EPA to address his questions prior to purchasing the property.

7.0 Technical Assessment

7.1 Question A: Is the remedy functioning as intended by the decision documents?

The review of documents, ARARs, risk assumptions and the site inspection indicate that the remedy is functioning as intended by the RODs and ESDs for OU1 and OU2.

Soils contaminated by PCBs were excavated, consolidated, stabilized/solidified and placed under a vegetated soil cover that forms the on-site monolith. Access to the monolith area is restricted by a locked security fence, signs are present around the perimeter of the monolith, and the Site is regularly inspected and maintained in accordance with the O&M Plan. Monolith performance verification sampling has not detected PCB levels at or above the cleanup goal since sampling began in 1996. The Site's 2013 restrictive covenant requires EPA and FDEP approval of any future uses of Parcels B-2 or B-3 to prevent human exposure to site contaminants and ensure the long-term integrity of the monolith.

Source control of PCB contamination entering groundwater was addressed in OU1 and a long-term groundwater monitoring program was conducted from 1996 until 1998. PCBs have not been detected in any OU1 or OU2 groundwater since 1996. In accordance with site decision

documents, the groundwater monitoring program was terminated in 1998 because the groundwater cleanup goal of PCB concentrations below the federal MCL of 0.5 μ g/L had been achieved during nine consecutive monitoring events. The Site's 2013 restrictive covenant, Duval County zoning ordinances, St. Johns Water Management District and the Site's location within a Florida Groundwater Delineated Area act to restrict groundwater use and prohibit the installation of groundwater wells at the Site.

7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of remedy selection still valid?

The exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of remedy selection still remain valid. To determine if the ROD's soil cleanup goal of 10 mg/kg PCB remains valid, the cleanup goal was compared to EPA Regional Screening Levels (RSLs). The analysis indicates that the PCB cleanup goal, based on direct contact, remains valid because the level is equivalent to a residential cancer risk of 4.2×10^{-5} , which falls well within the EPA's risk management range of 1×10^{-6} to 1×10^{-4} . The ARARs associated with the Site's groundwater have not changed since 1992. The state and federal MCL for PCBs remains $0.5 \mu g/L$. See Appendix G for additional detailed information related to the evaluation of soil cleanup goals.

According to the ROD, the average concentration of PCBs in surface soil in areas outside of the PCB handling operations area was less than 1.0 mg/kg (i.e., 0.28 mg/kg). Site cleanup included the excavation and treatment of contaminated soil containing PCB concentrations above the 10 mg/kg PCB cleanup goal. Following soil treatment, contractors covered the entire operational area and areas to the north and west of the operational area with clean soil and vegetative cover. There are no complete human or environmental exposure pathways at the Site.

7.3 Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

7.4 Technical Assessment Summary

The review of documents, ARARs, risk assumptions, cleanup levels and the site inspection indicate that the remedy is functioning as intended by the Site's decision documents. PCB-contaminated soil has been excavated, stabilized/solidified and placed under a vegetated soil cover that forms the on-site monolith. Access to the monolith area is restricted by a locked security fence. There are no complete human or environmental exposure pathways at the Site. Source control of PCB-contaminated soil effectively addressed groundwater contamination. Groundwater sampling has not detected PCB levels at or above the cleanup goal since sampling began in 1996. Institutional controls are in place to restrict groundwater use, prohibit the installation of groundwater wells at the Site, and to ensure future land uses do not compromise the integrity of the remedy.

8.0 Issues, Recommendations and Follow-up Actions

No issues were identified during the FYR process that affect current or future protectiveness.

The following items, though not expected to affect protectiveness, warrant additional follow-up:

- The EPA has completed an ecological risk assessment that shows no unacceptable risk to grazing horses on parcel B-2. Following FDEP review of the assessment, the EPA will determine if the restrictive covenant language should to be updated to specifically allow for horse grazing.
- CRA will retain a drilling contractor to remove the remnants of the suspect well and, prior to starting any work, will provide the EPA with the finalized work schedule.
- The EPA suggests that the PRP's contractor begin inspecting Parcel B-2 during semiannual site visits.
- Provide the site's local information repository with a copy of the 2013 Declaration of Restrictive and Affirmative Covenants.

9.0 Protectiveness Statement

Table 7: Protectiveness Statement

Sitewide Protectiveness Statement

Protectiveness Determination: Protective

Addendum Due Date (if applicable):

Protectiveness Statement:

The remedy is protective of human health and the environment. Excavation, stabilization/solidification and capping of PCB-contaminated soil eliminated the potential for exposure to the contaminated media and eliminated the source material that might have contributed to groundwater contamination. Appropriate institutional controls are in place to restrict groundwater use, prohibit the installation of groundwater wells at the Site and ensure future land uses do not compromise the integrity of the remedy.

10.0 Next Review

The next FYR will be due within five years of the signature/approval date of this FYR.

Appendix A: List of Documents Reviewed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Information System (CERCLIS) Site Information accessed from website http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0400933, December 2014.

Declaration of Restrictive and Affirmative Covenants, Yellow Water Road Site, Baldwin, Florida. Prepared by King & Spalding, LLP, EPA and Florida Department of Environmental Protection. September 26, 2013.

EPA Final Close-Out Report: Yellow Water Road. EPA ID: FLD980844179. OU1. Baldwin, Florida. May 20, 1998.

EPA Record of Decision – OU1: Yellow Water Road. EPA ID: FLD980844179. OU1. Baldwin, Florida. September 28, 1990.

EPA Record of Decision – OU2: Yellow Water Road. EPA ID: FLD980844179. OU2. Baldwin, Florida. June 30, 1992.

EPA Remedial Action Report: Yellow Water Road. EPA ID: FLD980844179. Baldwin, Florida. February 26, 1997.

Explanation of Significant Differences: Yellow Water Road Superfund Site Fact Sheet. U.S EPA Region 4, March 1998.

First Five-Year Review Report for Yellow Water Road Site. U.S. Army Corps of Engineers, August 2000.

Interim Public Health Assessment: Yellow Water Road. EPA ID: FLD980844179. Baldwin, Florida. Florida Department of Health and Rehabilitative Services. July 1992.

Operation, Maintenance and Monitoring Plan: Yellow Water Road Site. Conestoga-Rovers & Associates. November 1996.

Operation, Maintenance and Monitoring Report, Yellow Water Road Site, Baldwin, Florida. Conestoga-Rovers & Associates. May 8, 2012.

Operation, Maintenance and Monitoring Report, Yellow Water Road Site, Baldwin, Florida. Conestoga-Rovers & Associates. August 23, 2012.

Operation, Maintenance and Monitoring Report, Yellow Water Road Site, Baldwin, Florida. Conestoga-Rovers & Associates. December 5, 2014.

Second Five-Year Review Report for Yellow Water Road Site. U.S. Army Corps of Engineers, September 2005.

Semi-annual Operation, Maintenance and Monitoring Report, Yellow Water Road Site, Baldwin, Florida. Conestoga-Rovers & Associates. July 25, 2012.

Semi-annual Operation, Maintenance and Monitoring Report, Yellow Water Road Site, Baldwin, Florida. Conestoga-Rovers & Associates. January 28, 2013.

Third Five-Year Review Report for Yellow Water Road Site. E^2 , Inc., September 2010.

Appendix B: Press Notice



The U.S. Environmental Protection Agency, Region 4 Announces the Fourth Five-Year Review for the Yellow Water Road Superfund Site, Baldwin, Duval County, Florida

Purpose/Objective: EPA is conducting the fourth Five-Year Review of the remedy for the Yellow Water Road Superfund site (the Site) in Baldwin, Florida. The purpose of the Five-Year Review is to make sure the selected cleanup actions effectively protect human health and the environment.

Site Background: In 1981, the site owner formed the American Environmental Energy Corporation (AEEC) with the intention of removing polychlorinated biphenyl (PCB)-contaminated fluids from transformers and salvaging the transformers. AEEC, in a joint venture with two other companies, planned to incinerate the PCB-contaminated fluids on the 14-acre site. From 1981 to 1983, AEEC collected transformers, capacitors, drums and other PCB-contaminated materials. AEEC also transferred PCB-contaminated oil to the Site for later incineration. On-site PCB incineration never took place. The joint venture dissolved in October 1982 and AEEC began to salvage valuable metals such as copper from the transformers. Salvage activities spilled PCB-contaminated liquids, contaminating soil and groundwater with PCBs. EPA listed the Site on the Superfund program's National Priorities List (NPL) in 1986.

Cleanup Actions: EPA completed a short-term cleanup, or removal action, at the Site between 1984 and 1985 to address immediate threats to human health and the environment. Actions included drainage, steam-cleaning and onsite storage of the electrical transformers, as well as drainage of PCB-contaminated fluids to on-site holding tanks, excavation of PCB-contaminated soils and soil stockpiling on a concrete pad.

EPA later divided the site into two areas, or operable units (OUs), to manage the long-term cleanup: OU1 (source control) and OU2 (groundwater). EPA selected the OU1 remedy in the Site's 1990 Record of Decision (ROD) and updated it in a 2010 ESD. The final remedy for source contamination consisted of excavation and treatment of PCB-contaminated soils and sediments, placement of treated materials back into the excavation area, covering of the area with a soil cover, monitoring, and institutional controls.

EPA selected the OU2 remedy in the Site's 1992 ROD and updated it in a 1998 ESD. The final groundwater remedy included long-term monitoring with a contingency for groundwater pumping and treatment based on monitoring results, security fencing around source area wells, and institutional controls. The ESD indicated that groundwater monitoring could be terminated once ROD performance standards were met. Remedial actions for both OUs finished in September 1996. EPA took the Site off the NPL in May 1999.

Five-Year Review Schedule: The National Contingency Plan requires review of remedial actions that result in any hazardous substances, pollutants or contaminants remaining at a site above levels that allow for unlimited use and unrestricted exposure every five years to ensure the protection of human health and the environment. The fourth of the Five-Year Reviews for the Site will be completed by September 2015.

EPA Invites Community Participation in the Five-Year Review Process: EPA is conducting this Five-Year Review to evaluate the effectiveness of the Site's remedy and to ensure that the remedy remains protective of human

health and the environment. As part of the Five-Year Review process, EPA staff is available to answer any questions about the Site. Community members who have questions about the Site or the Five-Year Review process, or who would like to participate in a community interview, are asked to contact:

Peter Thorpe, EPA Remedial Project Manager L'Tonya Spencer, EPA Community Involvement

Phone: 404-562-9688 Coordinator

Email: thorpe.peter@epa.gov Phone: 404-562-8463 / 1-800-435-9234 (Toll Free)

Email: spencer.latonya@epa.gov

Mailing Address: U.S. EPA Region 4, 61 Forsyth Street, S.W., 11th Floor, Atlanta, GA 30303-8960

Additional information is available at the Site's local document repository, located at Baldwin City Hall, 10 U.S. 90 West, Baldwin, FL 32234, and online at: http://www.epa.gov/region4/superfund/sites/npl/florida/yelwtrfl.html.

Appendix C: Interview Forms

Yellow Water Road Superfund Site

Five-Year Review Interview

Form

					1.01111
Site Name: Yellow Water Road		EPA II) <u>FLI</u>	<u> </u>	
		No.:			
Interviewer Name:		Affiliat	ion:		_
Subject Name: Peter Tho	<u>orpe</u>	Affiliat	ion: <u>EP</u> A	Region 4	
Subject Contact Information:	Thorpe.peter@	@epa.gov			
Time:		Date:	<u>2/5/2015</u>		
Interview Location:					
Interview Format (circle one):	In Person	Phone	Mail	Other: Emai	<u>l</u>

Interview Category: EPA Remedial Project Manager

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

The project is progressing well. The PRP's consultant does a good job of maintaining the site and inspecting it on a regular basis.

2. What is your assessment of the current performance of the remedy in place at the Site?

The remedy has been performing great. There isn't much to improve on.

3. Are you aware of any community concerns regarding the Site or the operation and management of its remedy? If so, please provide details.

No, there is only one house next to the site. I answered all their questions during the FYR site visit.

4. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

It is suggested that the PRP's consultant start inspecting the small area described in Restrictive Covenant as Exhibit B-2 during its semi-annual visits to the Site.

Yellow Water Road Superfund Site

Five-Year Review Interview

				I OI III
Site Name: Yellow Water Roa	<u>ıd</u>	EPA ID	FLD	<u>980844179</u>
		No.:		
Interviewer Name:		Affiliation	ı:	
Subject Name: Walt Poo	hron	Affiliation	n: Cone	estoga-Rovers &
			Asso	<u>ciates, Inc.</u>
Subject Contact Information:	wpochron@cr	aworld.com		
Time: <u>10:00</u>		Date: 1/	<u> 29/2015</u>	
Interview Location:				
Interview Format (circle one):	In Person	Phone	Mail	Other: Email

Interview Category: O&M Contractor

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

The project cleanup and maintenance has moved along smoothly and there have not been any significant maintenance issues. The remedy continues to be protective as designed and as evidenced by 20 years of groundwater data consistently yielding a non-detectible result

- 2. What is your assessment of the current performance of the remedy in place at the Site?
 - The current performance of the implemented remedy is excellent. The vegetative cover is well established and the security fencing remains in excellent condition. The remedy continues to be protective as designed and as evidenced by 20 years of groundwater data consistently yielding a non-detectible result.
- 3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site?
 - The groundwater monitoring data continue to demonstrate that groundwater in the vicinity of the Site has not been impacted by past operations. Groundwater results continue to be non-detect for PCBs. The inspection observations continue to document that the vegetative cover is well established and the security fencing remains in excellent condition. The remedy continues to be protective as designed.
- 4. Is there a continuous on-site O&M presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence.
 - There is not a continuous O&M presence at the Site. The Site O&M activities are coordinated and managed by CRA Project Coordinator Walter Pochron on behalf of the Yellow Water Road Settling Defendants. Consistent with the EPA-approved Operation, Maintenance and Monitoring Plan, Site inspections are completed on a semi-annual basis. A local contractor that maintains the monolith cover (Marietta Sand Corp.) is proximate to the Site and undertakes local site condition monitoring following significant rain/storm events.

Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts.

Due to the continued lack of detections of PCBs in groundwater, the groundwater monitoring frequency has been reduced to once every five years. Eighteen former monitoring wells have been properly closed and abandoned as they were eliminated from the sampling program. There have been no changes in site O&M requirements, maintenance schedules or sampling routines during the last five years. The remedy continues to be effective and protective as designed.

- 5. Have there been unexpected O&M difficulties or costs at the Site since start-up or in the last five years? If so, please provide details.
 - There were two minor monolith soil cover repairs in the past (within the first 10 years of construction), but there have not been any unexpected maintenance activities during the past five years.
- 6. Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies.
 - As discussed previously, the groundwater monitoring frequency has been reduced to once every five years. The groundwater monitoring events are scheduled to occur concurrently with the semi-annual Site inspections to reduce costs. Site inspections are scheduled and travel arrangements are booked several weeks in advance to reduce cost. The second semi-annual site inspection for 2014 was delayed (with EPA approval) to coincide with the FYR site meeting conducted on January 6, 2015.
- 7. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?
 - Over 20 years of groundwater monitoring data have demonstrated that the groundwater beneath and surrounding the Site has not been impacted by past site operations. It is suggested that further groundwater monitoring at the Site be discontinued.

Yellow Water Road Superfund Site

Five-Year Review Interview

Form

Site Name: Yellow Water Road EPA ID No.: FLD980844179
Interviewer Name: Peter Thorpe Affiliation: EPA Region 4

Subject Name: On-site resident Affiliation:

Subject Contact Information:

Time: <u>10:30 A.M.</u> <u>Date:</u> <u>1/16/2015</u>

Interview Location: Yellow Water Road Site

Interview Format (circle one): <u>In Person</u> Phone Mail Other:

Interview Category: Resident

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

Yes.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

The cleanup seems to have been successful. However, I have concerns regarding how safe it is to allow my horses to graze in the area.

3. What have been the effects of this Site on the surrounding community, if any?

Not that I am aware of.

4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?

No.

5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future?

Yes.

6. Do you have any comments, suggestions or recommendations regarding any aspects of the project?

I am interested in purchasing the western part of the Site to use as grazing land for my horses. I want to make sure it is safe to allow the horses to graze in the area. There is what appears to be an old well in the field outside of the fence. The concrete is uneven and cracked and there's a small hole in the center. I am concerned that my horses might injure themselves if they step into the hole. If I purchase the property, I would want to build a fence to restrict

access to the property. I could provide a key to the EPA and contractors to access the property when necessary.

Appendix D: Site Inspection Checklist

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST			
FORMATION			
Date of Inspection: January 6, 2015			
EPA ID: FLD980844179			
Weather/Temperature: Sunny – 60 degrees F.			
Remedy Includes: (Check all that apply)			
☐ Site map attached			
(check all that apply)			
O&M Site Manager, P.G CRA Title Date Date sponses are summarized in section 6.6.			
Title Date one:			

3. Local Regulatory Authorities and Response Agencies (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.			
Agency Contact Name	Title	- Date	Phone No.
Problems/suggestions \(\subseteq R \)	eport attached:		
Agency Name ContactName Problems/suggestions R	Title eport attached:	Date	Phone No.
Agency Contact Name Problems/suggestions \[\] R	Title eport attached:	Date	Phone No.
Agency Contact Name Problems/suggestions [] R	Title eport attached:	Date	Phone No.
Agency Contact Name Problems/suggestions [] R	Title eport attached:		Phone No.
4. Other Interviews (optional) Report attached:	Interview responses are s	summarized in section 6.6.
EPA Site RPM - Peter Thorpe			
The onsite tenant was interviewed or	site, during the site in	spection.	
	MENTS AND RECO	RDS VERIFIED (chec	k all that apply)
1. O&M Documents			_
☑ O&M manual —	Readily available		□ N/A
☐ As-built drawings	Readily available		□ N/A
Maintenance logs	Readily available	Up to date	□ N/A
Remarks: <u>CRA maintains all as-built drawings, maintenance logs and the Site's O&M plan online. The Site's O&M plan is also stored in the on-site storage shed.</u>			
2. Site-Specific Health and	Safety Plan	Readily available	Up to date N/A
☑ Contingency plan/emergency re	sponse plan	☐ Readily available	Up to date N/A
Remarks: <u>CRA</u> maintains the <u>Site's</u> health and <u>safety plan</u> and <u>emergency response plan online</u> . The <u>site-specific</u> health and <u>safety plan</u> is also stored in the on-site storage shed.			
3. O&M and OSHA Traini	ng Records	Readily available	☑ Up to date ☐ N/A
Remarks: CRA maintains all O&M	and OSHA training red	cords onlie.	

4. Permits and Service Agre	ements			
☐ Air discharge permit		Readily available	Up to date	N/A
☐ Effluent discharge		Readily available	Up to date	N/A
☐ Waste disposal, POTW		Readily available	Up to date	N/A
Other permits:		Readily available	Up to date	N/A
Remarks:				
5. Gas Generation Records		Readily available	Up to date	N/A
Remarks:				
6. Settlement Monument Re	ecords	Readily available	Up to date	N/A
Remarks:				
7. Groundwater Monitoring	Records	Readily available	Up to date	□ N/A
Remarks:				
8. Leachate Extraction Reco	ords	Readily available	Up to date	N/A
Remarks:				
9. Discharge Compliance Ro	ecords			
☐ Air	Readily available	Up to date	$\boxtimes N$	I/A
☐ Water (effluent)	Readily available	Up to date	$\boxtimes N$	I/A
Remarks:				
10. Daily Access/Security Log	gs	☐ Readily available	Up to date	□ N/A
Remarks:				
IV. O&M COSTS				
1. O&M Organization				
☐ State in-house		Contractor for state		
☐ PRP in-house		Contractor for PRP		
☐ Federal facility in-house		Contractor for Federal	facility	
The PRP's contractor, CRA, perf	forms all site-related O	&M activities.		

2. O&M Cost Records			
Readily available	Up to date		
☐ Funding mechanism/agreen	ment in place Unavailable		
Original O&M cost estimate:	□ Breakdown attached		
To	otal annual cost by year for review period if available		
Year: <u>2010</u>	<u>\$40,000</u>		
	Total cost		
Year: <u>2011</u>	<u>\$120,000</u>		
	Total cost		
Year: 2012	<u>\$45,000</u>		
	Total cost		
Year: 2013	<u>\$50,000</u>		
	Total cost		
Year: <u>2014</u>	\$40,000		
	Total cost		
3. Unanticipated or Unu	sually High O&M Costs during Review Period		
	sons: CRA explained that the spike in O&M costs in 2011 was related to legal		
	tion of the Site's restrictive covenant. The 2011 O&M cost also included minor		
landscaping and a land survey required for the restrictive covenant. V. ACCESS AND INSTITUTIONAL CONTROLS			
	AND INSTITUTIONAL CONTROLS Applicable N/A		
A. Fencing			
1. Fencing Damaged	☐ Location shown on site map ☐ Gates secured ☐ N/A		
	ng appeared to be in good condition.		
B. Other Access Restrictions			
1. Signs and Other Secu	rity Measures		
Remarks: All site signa	ge is clearly displayed and in good condition.		
C. Institutional Controls (ICs			

1. Implementation and Enforcement		
Site conditions imply ICs not properly implemented	☐ Yes No ☐ N/A	
Site conditions imply ICs not being fully enforced [Yes No No N/A	
Type of monitoring (e.g., self-reporting, drive by):		
Frequency:		
Responsible party/agency:		
Contact	mm/dd/yyyy	
Name Title	Date Phone	no.
Reporting is up to date	☐ Yes ☐ No ▷	N/A
Reports are verified by the lead agency	☐ Yes ☐ No ▷	N/A
Specific requirements in deed or decision documents have been r	net 🛛 Yes 🗌 No 🖺	N/A
Violations have been reported	☐ Yes] N/A
Other problems or suggestions: Report attached		
		I/A
Remarks: On September 26, 2013, NHG Holdings, LLC (the site owner) and Affirmative Covenants with FDEP to establish and implement the re		
restrictions.	quired faild use and ground war	iei use
D. General		
1. Vandalism/Trespassing Location shown on site map	No vandalism evident	
Remarks:		
2. Land Use Changes On Site \boxtimes N/A		
Remarks:		
3. Land Use Changes Off Site ⊠ N/A		
Remarks:		
VI. GENERAL SITE CONDITION	ONS	
A. Roads		
1. Roads Damaged Location shown on site map	Roads adequate N	I/A
Remarks:		
B. Other Site Conditions		
Remarks:		
VII. LANDFILL COVERS 🖂 Appli	cable N/A	
A. Landfill Surface		

1. Settlement (low spots)	Location shown on site map	Settlement not evident
Arial extent:		Depth:
Remarks:		
2. Cracks	Location shown on site map	☐ Cracking not evident
Lengths:	Widths:	Depths:
Remarks:		
3. Erosion	Location shown on site map	⊠ Erosion not evident
Arial extent:		Depth:
Remarks:		
4. Holes	Location shown on site map	☐ Holes not evident
Arial extent:		Depth:
Remarks:		
5. Vegetative Cover	⊠ Grass	○ Cover properly established
No signs of stress	☐ Trees/shrubs (indicate size and loc	ations on a diagram)
Remarks:		
6. Alternative Cover (e.g., ar	mored rock, concrete)	⊠ N/A
Remarks:		
7. Bulges	Location shown on site map	□ Bulges not evident
Arial extent:		Height:
Remarks:		
8. Wet Areas/Water	☐ Wet areas/water damage not ev	ident
Damage		
₩et areas	Location shown on site map	Arial extent:
Ponding	Location shown on site map	Arial extent:
Seeps	Location shown on site map	Arial extent:
☐ Soft subgrade	Location shown on site map	Arial extent:
Remarks:		
9. Slope Instability	Slides	Location shown on site map
Arial extent:		
Remarks:		
B. Benches		
	earth placed across a steep landfill side a unoff and intercept and convey the runc	

1. Flows Bypass Bench	Location shown on site map	☐ N/A or okay
Remarks:		
2. Bench Breached	Location shown on site map	☐ N/A or okay
Remarks:		
3. Bench Overtopped	Location shown on site map	☐ N/A or okay
Remarks:		
C. Letdown Channels	Applicable N/A	
	mats, riprap, grout bags or gabions that vater collected by the benches to move	
1. Settlement (Low spots)	Location shown on site map	☐ No evidence of settlement
Arial extent:		Depth:
Remarks:		
2. Material Degradation	☐ Location shown on site map	☐ No evidence of degradation
Material type:		Arial extent:
Remarks:		
3. Erosion	☐ Location shown on site map	☐ No evidence of erosion
Arial extent:		Depth:
Remarks:		
4. Undercutting	☐ Location shown on site map	☐ No evidence of undercutting
Arial extent:		Depth:
Remarks:		
5. Obstructions	Type:	☐ No obstructions
☐ Location shown on site map	Arial extent:	_
Size:		
Remarks:		
6. Excessive Vegetative Gro	owth Type:	
☐ No evidence of excessive growt	th	
☐ Vegetation in channels does not	t obstruct flow	
Location shown on site map	Arial extent:	_
Remarks:		
D. Cover Penetrations	X Applicable □ N/A	

1. Gas Vents	Active	☐ Passi	ve
Properly secured/locked	☐ Functioning	☐ Routinely sampled	Good condition
Evidence of leakage at penetration	L	☐ Needs maintenance	⊠ N/A
Remarks:			
2. Gas Monitoring Probes			
Properly secured/locked	☐ Functioning	☐ Routinely sampled	Good condition
Evidence of leakage at penetration	ı	☐ Needs maintenance	⊠ N/A
Remarks:			
3. Monitoring Wells (within so	urface area of landfil	11)	
□ Properly secured/locked		☐ Routinely sampled	☐ Good condition
☐ Evidence of leakage at penetration	l	☐ Needs maintenance	□ N/A
Remarks:			
4. Extraction Wells Leachate			
Properly secured/locked	☐ Functioning	☐ Routinely sampled	Good condition
☐ Evidence of leakage at penetration	l	☐ Needs maintenance	⊠ N/A
Remarks:			
5. Settlement Monuments	Located	☐ Routinely surveyed	N/A
Remarks:			
E. Gas Collection and Treatment	☐ Applicable	N/A	
1. Gas Treatment Facilities			
☐ Flaring	☐ Thermal destru	ction	Collection for reuse
Good condition	☐ Needs maintena	ance	
Remarks:			
2. Gas Collection Wells, Man	ifolds and Piping		
Good condition	☐ Needs maintena	ance	
Remarks:			
3. Gas Monitoring Facilities (e.g., gas monitoring	of adjacent homes or build	ings)
Good condition	☐ Needs maintena	ance N/A	
Remarks:			
F. Cover Drainage Layer	Applicable	N/A	
1. Outlet Pipes Inspected	☐ Functioning	□ N/A	
Remarks:			
2. Outlet Rock Inspected	☐ Functioning	□ N/A	
Remarks:			
G. Detention/Sedimentation Ponds	Applicable	N/A	

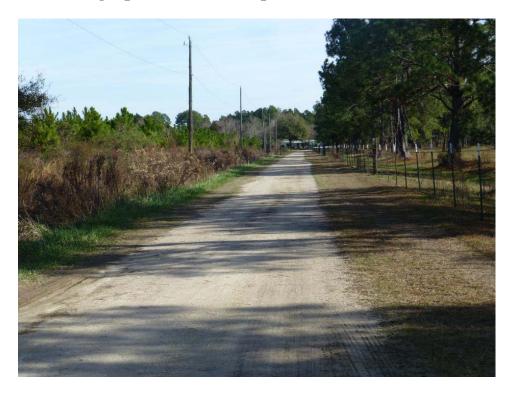
1. Siltation	Area extent: Depth:	N/A
☐ Siltation not evident		
Remarks:		
2. Erosion	Area extent: Depth:	
Erosion not evident		
Remarks:		
3. Outlet Works	☐ Functioning	□ N/A
Remarks:		
4. Dam	Functioning	□ N/A
Remarks:		
H. Retaining Walls	☐ Applicable ☐ N/A	
1. Deformations	Location shown on site	map Deformation not evident
Horizontal displacement:	<u> </u>	ical displacement:
Rotational displacement:	<u></u>	
Remarks:		
2. Degradation	Location shown on site	map Degradation not evident
Remarks:		
I. Perimeter Ditches/Off-Si		
		ble N/A
I. Perimeter Ditches/Off-Si	te Discharge Applica	ble 🔀 N/A
Perimeter Ditches/Off-Si Siltation Area extent:	te Discharge	ble ⊠ N/A map ☐ Siltation not evident
1. Siltation	te Discharge	ble N/A map Siltation not evident Depth:
Perimeter Ditches/Off-Si Siltation Area extent: Remarks:	te Discharge	ble N/A map Siltation not evident Depth:
Siltation Area extent: Remarks: Vegetative Growth	te Discharge	ble N/A map Siltation not evident Depth:
1. Siltation Area extent: Remarks: 2. Vegetative Growth Use the second	te Discharge	ble N/A map Siltation not evident Depth: map N/A
1. Siltation Area extent: Remarks: 2. Vegetative Growth Vegetation does not imp Area extent:	te Discharge	map Siltation not evident Depth: map N/A Type:
1. Siltation Area extent: Remarks: 2. Vegetative Growth Vegetation does not imp Area extent: Remarks:	Location shown on site Location shown on site Location shown on site Location shown on site	map Siltation not evident Depth: map N/A Type:
1. Siltation Area extent: Remarks: 2. Vegetative Growth	Location shown on site Location shown on site Location shown on site Location shown on site	ble N/A map Siltation not evident Depth: map N/A Type: map Erosion not evident
1. Siltation Area extent: Remarks: 2. Vegetative Growth Vegetation does not import Area extent: Remarks: 3. Erosion Area extent: Area extent:	Location shown on site	ble N/A map Siltation not evident Depth: map N/A Type: map Erosion not evident
1. Siltation Area extent: Remarks: 2. Vegetative Growth	Location shown on site	ble N/A map Siltation not evident Depth: map N/A Type: map Erosion not evident Depth:
1. Siltation Area extent: Remarks: 2. Vegetative Growth	Location shown on site	ble N/A map Siltation not evident Depth: map N/A Type: map Erosion not evident Depth:
1. Siltation Area extent: Remarks: 2. Vegetative Growth	Location shown on site	ble N/A map Siltation not evident Depth: map N/A Type: map Erosion not evident Depth: Depth:
1. Siltation Area extent: Remarks: 2. Vegetative Growth	Location shown on site Functioning REWALLS Applica	ble N/A map Siltation not evident Depth: map N/A Type: map Erosion not evident Depth: Depth:

2. Performance Monitoring	Type of monitoring:
Performance not monito	ed
Frequency:	☐ Evidence of breaching
Head differential:	
Remarks:	
IX. GROUNDWATER/SU	RFACE WATER REMEDIES
A. Groundwater Extraction	Wells, Pumps and Pipelines ☐ Applicable ☐ N/A
1. Pumps, Wellhead Pl	mbing and Electrical
Good condition	☐ All required wells properly operating ☐ Needs maintenance ☐ N/A
Remarks:	
2. Extractio	System Pipelines, Valves, Valve Boxes and Other Appurtenances
Good condition	☐ Needs maintenance
Remarks:	
3. Spare Parts and I	
Readily available	☐ Good ☐ Requires upgrade ☐ Needs to be provided condition
Remarks:	
B. Surface Water Collectio	Structures, Pumps and Pipelines
1. Collection Structure	, Pumps and Electrical
Good condition	☐ Needs maintenance
Remarks:	
2. Surface Water Colle	ction System Pipelines, Valves, Valve Boxes and Other Appurtenances
Good condition	☐ Needs maintenance
Remarks:	
3. Spare Parts and I	quipment
Readily available	☐ Good ☐ Requires upgrade ☐ Needs to be provided condition
Remarks:	
C. Treatment System	☐ Applicable ⊠ N/A

1. Treatment Train (check co	omponents that apply)	
☐ Metals removal	Oil/water separation	Bioremediation
☐ Air stripping	☐ Carbon adsorbers	
Filters:		
Additive (e.g., chelation agent	, flocculent):	
Others:		
Good condition	☐ Needs maintenance	
☐ Sampling ports properly mark	ed and functional	
☐ Sampling/maintenance log dis	played and up to date	
☐ Equipment properly identified		
Quantity of groundwater treate	ed annually:	
Quantity of surface water treat	ed annually:	
Remarks:		
2. Electrical Enclosures an	nd Panels (properly rated and functio	onal)
	Good Needs mai dition	intenance
Remarks:		
3. Tanks, Vaults, Storage		
□ N/A □ Good condition	Proper secondary con	tainment Needs maintenance
Remarks:		
4. Discharge Structure and A		
	Good Needs mai dition	intenance
Remarks:		
5. Treatment Building(s)		
	Good condition (esp. roof and rways)	☐ Needs repair
☐ Chemicals and equipment prop	perly stored	
Remarks:		
6. Monitoring Wells (pump a	nd treatment remedy)	
☐ Properly secured/locked	☐ Routinel Functioning	ly sampled Good condition
☐ All required wells located	☐ Needs maintenance	□ N/A
Remarks:		

D. Monitoring Data	
1. Monitoring Data	
☑ Is routinely submitted on time	
2. Monitoring Data Suggests:	
☐ Groundwater plume is effectively contained ☐ Contaminant concentrations are declining	
E. Monitored Natural Attenuation	
1. Monitoring Wells (natural attenuation remedy)	
	tion
Remarks: In accordance with site decision documents, the groundwater monitoring program was terminated	ed in
1998 after groundwater met the PCB cleanup goal during nine consecutive monitoring events. The two	
monitoring wells located on the monolith are used to monitor the performance of the monolith.	
X. OTHER REMEDIES	
If there are remedies applied at the site and not covered above, attach an inspection sheet describing the phy	sical
nature and condition of any facility associated with the remedy. An example would be soil vapor extraction	e e e e e e e e e e e e e e e e e e e
XI. OVERALL OBSERVATIONS	
A. Implementation of the Remedy	
Describe issues and observations relating to whether the remedy is effective and functioning as designed. E	egin
with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume,	
minimize infiltration and gas emissions).	
Based on a review of the Site's decision documents, monitoring data and site inspection results, the Site's re	
is functioning as designed. Institutional controls have been implemented and restrict land and groundwater	ise as
required by the Site's decision documents. Soils contaminated by PCBs were excavated, consolidated,	
stabilized/solidified, and placed under a vegetated soil cover that forms the on-site monolith. Access to the monolith area is restricted by a locked security fence, signs are present around the perimeter of the monolith	and
the Site is regularly inspected and maintained in accordance with the Site's O&M Plan. Monolith performan	
verification sampling has not detected PCB levels at or above the cleanup goal since sampling began in 199	
Source control of PCB contamination entering groundwater effectively addressed contaminated groundwater	
accordance with site decision documents, the groundwater monitoring program was terminated in 1998 because	
the groundwater cleanup goal for PCBs of 0.5 µg/L had been achieved during nine consecutive monitoring	
B. Adequacy of O&M	
Describe issues and observations related to the implementation and scope of O&M procedures. In particular	
discuss their relationship to the current and long-term protectiveness of the remedy.	
Site O&M consists largely of maintenance of the monolith cap, vegetative cover and access controls.	
Groundwater wells are monitored on a once-per-five-years basis to ensure the integrity of the monolith. The	se
activities are adequate to support the site remedy.	
C. Early Indicators of Potential Remedy Problems	
Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency	icy of
unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.	
There are no early indicators of potential remedy problems.	
D. Opportunities for Optimization	
Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.	
No new opportunities for O&M optimization have been identified.	

Appendix E: Photographs from Site Inspection Visit



Site access road.



The gate to the monolith area is secured with a lock.



Warning signs are posted within the monolith fence.



Vegetation on the monolith surface is healthy and well established.



The monitoring wells located on top of the monolith remain closed and secured with locks.



A small storage shed is located inside of the entrance gate to the monolith area.



View from the top of the monolith, looking south.



Horses currently graze on the eastern part of the Site (parcel B-1).



A possible abandoned well, located outside the fenced monolith area.



View looking toward the southwest corner of the Site.



The on-site residence is located immediately east of the fenced monolith area.



Cattle grazing in the eastern part of the Site.



A sign, located at the intersection of the site access road and Yellow Water Road advertising a part of the Site for sale.

Appendix F: Institutional Controls and Detailed Property Records

On September 26, 2013, NHG Holdings, LLC entered into a Declaration of Restrictive and Affirmative Covenants with FDEP to establish and implement the required land use and groundwater use restrictions.

The covenant sets forth the following restrictions for the monolith area, designated as Parcel B-3 in Figure 3:

- The monolith shall be maintained in accordance with the Site's consent agreements and O&M plan.
- There shall be no use of the monolith area without prior written notice provided to FDEP, the EPA and the Site's PRPs and prior written approval of that use provided by the EPA and FDEP.
- The monolith area shall not be used for agricultural, lodging, recreational, residential or educational purposes.
- Should future development require the disturbance of on-site engineering controls on the monolith area, NHG Holdings, LLC or the party responsible for disturbing the integrity of the monolith or otherwise causing a release of hazardous substances at the Site, shall be responsible for all response actions and related costs for actions required by the EPA and the FDEP to preserve the integrity of the monolith area and on-site engineering controls and prevent exposure to any hazardous substances on site.
- For any construction activities at the monolith area, a plan must be submitted to FDEP, the EPA and site PRPs and written pre-approval must be provided by FDEP and the EPA prior to commencement of work.
- There shall be no drilling for water conducted on the monolith areas, except as approved in writing by FDEP and the EPA.

The covenant sets forth the following restrictions for the site areas located outside of the monolith area, designated as Parcel B-2 in Figure 3:

- The property shall only be used for commercial or industrial purposes. Commercial or industrial use of the area shall be permitted only with prior written notice to FDEP, the EPA and the Site's PRPs and written pre-approval provided by FDEP and the EPA.
- The area shall not be used for agricultural, lodging, recreational, residential or educational purposes.
- No soil shall be disturbed below the top ten inches unless prior written notice is provided to FDEP, the EPA and the Site's PRPs and written pre-approval is provided by FDEP and the EPA.
- Excavated soil exceeding 0.5 mg/kg PCB must be managed in compliance with all federal and state environmental laws and regulations.

- There shall be no storm swales, stormwater detention or retention facilities, or ditches constructed on the property unless prior written notice is provided to FDEP, the EPA and the Site's PRPs and written pre-approval is provided by FDEP and the EPA.
- For any dewatering activities, a plan must be submitted to FDEP, the EPA and the Site's PRPs, and written pre-approval must be provided by FDEP and the EPA to address and ensure the appropriate handling, treatment and disposal of any extracted groundwater or other media or waste that may be contaminated.
- There shall be no drilling for water conducted on the property, nor shall any wells, including monitoring wells, be installed on the property unless prior written notice is provided to FDEP, the EPA and the Site's PRPs and written pre-approval is provided by FDEP and the EPA.

The restrictive covenant states that the area located outside of the monolith area, designated as Parcel B-1 in Figure 3, is not currently subject to the land and groundwater use restrictions.

Table F-1: Complete Site Property Records

Date	Type of Document	Affected Parcel(s) ^a	Description	Book #	Page #
10/29/1986	Warranty Deed	000968-0600	6.28-acre property sold from American Environmental Energy Corporation to Ray A. and Beatrice E. Hyman.	6219	1888
12/11/1986	Warranty Deed	000968-0600	4.71-acre property sold from American Environmental Energy Corporation to Ray A. and Beatrice E. Hyman.	6246	513
3/25/1999	Certificate of Title	000968-0200	34.11-acre property sold from Robert C. Tyer to the Law Offices of S. Perry Penland, Sr., P.A.	9239	711
12/17/2002	Personal Representatives Deed	000968-0200	34.11-acre property transferred from Estate of S. Perry Penland, Sr. to Penland & Block, P.A.	10823	1063
1/10/2006	Personal Representatives Deed	000968-0200	34.11-acre property transferred from the Law Office of S. Perry Penland, Sr., P.A. (formerly known as Penland & Block, P.A.) to Scott Paul Howard.	13014	2297
2/23/2007	Warranty Deed	000968-0200	23.11-acre property sold from Scott Paul Howard to NHG Holdings, LLC.	13830	2076
8/8/2007	Warranty Deed	000968-0200	Correction to Warranty Deed for 000968-0200, recorded 2/23/2007, for purpose of clear title.	14221	1492
9/26/2007	Warranty Deed	000968-0600	6.28-acre property transferred from Mrs. Beatrice Hyman to NHG Holdings, LLC	14221	1495
11/30/2011	Warranty Deed	000968-0275	Designation and transfer of "Parcel B-2" from NHG Holdings, LLC to NHG Holdings, LLC.	15797	1858
11/30/2011	Warranty Deed	000968-0250	Designation and transfer of "Parcel B-3" from NHG Holdings, LLC to NHG Holdings, LLC.	15782	144

Date	Type of Document	Affected Parcel(s) ^a	Description	Book #	Page #
12/15/2011	Warranty Deed	000968-0205	Designation and transfer of "Parcel B-1" from NHG Holdings, LLC to NHG Holdings, LLC.	15797	1862
1/10/2013	Mortgage	000968-0205, 000968-0275 and 000968-0250	Mortgage between NHG Holdings, LLC and Wells Fargo Bank.	16211	2162
4/18/2013	Quit Claim Deed	000968-0250	Transfer of "Parcel B-3" (the 1.71-acre monolith area) from the City of Jacksonville to NHG Holdings, LLC.		1801
11/2/2013	Declaration of Restrictive Covenants	000968-0250 and 000968-0275	Restrictive covenant to establish land and groundwater use restrictions on Parcels B-2 and B-3.	16583	1139

Notes:

a Parcel numbers and parcel boundaries changed between 1986 and present.

Appendix G: Evaluation of Soil Cleanup Goals and Toxicity Values

According to the Site's OU1 ROD, a site-specific soil cleanup goal for PCBs of 10 mg/kg was established based upon a carcinogenic risk exposure scenario for residential land use. EPA has recently revised the standard default residential exposure factors for evaluating human health risks. The cancer toxicity value has also changed for PCBs since the OU1 ROD. To determine if the ROD cleanup goal for PCBs remains valid, the cleanup goal was reviewed by comparing it to EPA RSLs for direct contact (Table G-1) using the most conservative RSL established for high risk PCBs. The RSLs incorporate the most current EPA default exposure factors and toxicity values. The analysis indicates that the cleanup goal for PCBs, based on direct contact, remains valid because the level is equivalent to a residential cancer risk of 4.2 x 10⁻⁵, which falls well within the EPA's risk management range of 1 x 10⁻⁶ to 1 x 10⁻⁴.

Table G-1: Evaluation of the ROD Soil PCB Cleanup Goal

COC	Soil Cleanup Goal (mg/kg) ^{a,b}	Residential Soil Cancer RSL (mg/kg) ^c	Residential Soil Noncancer RSL (mg/kg)	Residential		
COC				Risk ^d	Hazard Index ^e	
PCB	10	0.24	NA	4.2 x 10 ⁻⁵	NA	

Notes:

- a. Obtained from 1990 ROD.
- b. Based on residential exposures and a target cancer risk of 1 x 10⁻⁶ for carcinogens and a non-cancer hazard index of 1.0.
- c. RSLs for residential exposure obtained from EPA's January 2015 RSL table http://www.epa.gov/reg3hwmd/risk/human/rb-concentration-table/Generic Tables/index.htm.
- d. Cancer risk was calculated using the following equation, based on the fact that RSLs are derived based on 1 x 10⁻⁶ risk: Cancer risk = (Soil Cleanup Level ÷ Soil Cancer RSL) × 10⁻⁶
- e. Non-cancer hazard index was calculated using the following equation: Hazard index = (Soil Cleanup Level ÷ Soil Non-cancer RSL)

NA - non-cancer toxicity value not established for high risk PCBs.

The Site's remedial investigation determined that site soil contaminated with PCBs above 1.0 mg/kg was located within the former operational area (the monolith area) and immediately north and west of this area. PCB concentrations in those areas ranged from the detection limit to 660 mg/kg, with the highest concentrations localized in areas of known PCB-handling operations. Outside the former operational area (now referred to as the monolith area), few sampling locations contained PCB concentrations above 1.0 mg/kg. According to the ROD, the average concentration of PCBs in surface soil in areas outside of the PCB handling operations area was less than 1.0 mg/kg (i.e., 0.28 mg/kg). Site cleanup included the excavation and treatment of contaminated soil containing PCB concentrations above the 10 mg/kg PCB cleanup goal. Following soil treatment, contractors covered the entire operational area and areas to the north and west of the operational area with clean soil and vegetative cover. The remedy has effectively

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¹ Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. EPA's Office of Solid Waste and Emergency Response. Directive 9200.1-120. February 6, 2014. http://www.epa.gov/oswer/riskassessment/pdf/superfund-hh-exposure/OSWER-Directive-9200-1-120-ExposureFactors.pdf

minimized the potential for human and environmental exposure to PCBs in site soil. PCB concentrations in areas where human and environmental exposures could occur (outside the fenced monolith area) are below 1.0 mg/kg. While the monolith area contains soil that previously contained high concentrations of PCBs, that soil has been treated, contained and covered with at least 12 inches of clean topsoil. There are no complete human or environmental exposure pathways at the Site.

Analytical methods available at the time of the site investigation and cleanup did not include the identification of specific PCB congeners. Since Aroclor 1260, 1254 and 1248 have historically been detected, and all commercial Aroclor mixtures contain varying amounts of PCB dioxin-like congeners, it is likely that dioxin-like PCBs are present. However, this is mostly a concern when elevated PCB concentrations are present. Currently, the most contaminated soils are isolated and covered with 12 inches of clean fill and vegetation. Even if dioxin-like PCBs are present, the contamination is not available for exposure. The remaining areas of the Site were determined to have PCBs less than 1.0 mg/kg, which is indicative of clean soil. Based on this analysis, the exposure assumptions, toxicity data, cleanup levels and RAOs used at the time of remedy selection still remain valid.